Probability Trivia

Math I Unit 4 Standards
MM1D1a Counting principles
MM1D1bPermutations & combinations
MM1D2a Mutually exclusive events
MM1D2b Dependent events
MM1D2c Conditional probability

Rules

- 3 questions in every round
- Send your answer on the ActivExpression
- Please use your notes!

- This activity is graded

Round 1 Question 1

- How many ways can these two events occur together?
- Event A: 12 outcomes
- Event B: 6 outcomes

Round 1 Question 2

- How many ways can you arrange the letters in

PERMUTATION

Hint: If there are repeated letters, only count them once.

Round 1 Question 3

- Evaluate the expression

$$\frac{{}_4P_2}{{}_3P_2}$$

Round 1 END

- Answers

- Round 1 Question 1 72
- Round 1 Question 2 3,628,800
- Round 1 Question 3 2

Round 2 Question 1

- You choose a card from a standard deck of 52 playing cards. Find the probability that you choose a King or Queen.

Round 2 Question 2

- You choose a card from a standard deck of 52 playing cards. Find the probability that you choose a red card or a 10.

Round 2 Question 3

- A bag contains 5 blue marbles and 9 red marbles. You choose one at random, then choose another at random without replacing the first.

- Find the probability that both marbles are blue.

Round 2 END

- Answers

- Round 2 Question 1 0.154
- Round 2 Question 2 0.308
- Round 2 Question 3 0.110

Round 3 Question 1

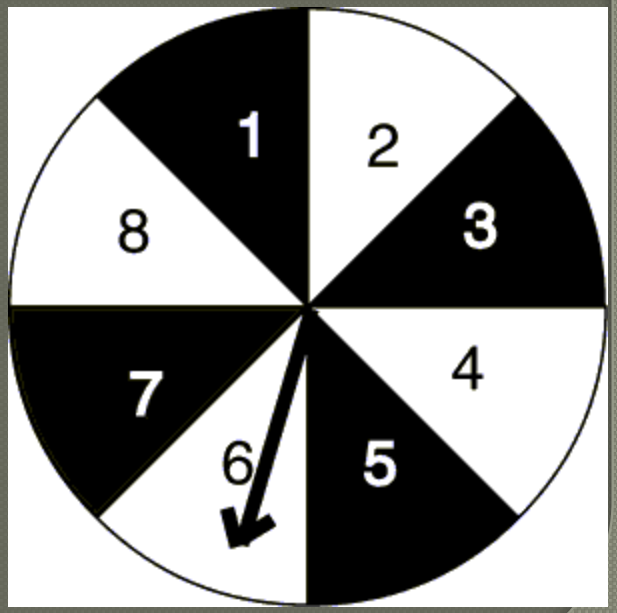
- A pair of dice is rolled. What is the probability of rolling a 5 and a 2?

Round 3 Question 2

- A pair of dice is rolled. What is the probability of rolling a 5 on either die?

Round 3 Question 3

- You turn a spinner that is divided into 8 equal sections. What is the probability of landing on the number 2 twice in a row?



Round 3 END

- Answers

- Round 3 Question 1 0.028
- Round 3 Question 2 0.334
- Round 3 Question 3 0.016

Round 4 Question 1

- You enter a contest in which the person who draws his or her initials out of a boxes containing all 26 letters of the alphabet wins.
- You draw your first initial on the first try, keep it, and reach a second time. What is the probability you will get your last initial?

Round 4 Question 2

- You reach into a bag containing
  - 10 $5 bills,
  - 20 $1 bills,
  - 2 $50 bills, and
  - one $100 bill.
- What is your chance of getting at least $50?

Round 4 Question 3

- A pair of dice is rolled. What is the probability that the sum of the dice is 7?

Round 4 END

- Answers

- Round 4 Question 1 0.04
- Round 4 Question 2 0.091
- Round 4 Question 3 0.273